

Figure 1 illustrates the steps of the proposed algorithm for finding the minimum spanning tree of a graph. The graph has 10 nodes and 15 edges. The steps are as follows:

- (a) Initial graph with 10 nodes and 15 edges.
- (b) Selection of edge (1,2) with weight 1.
- (c) Selection of edge (2,3) with weight 1.
- (d) Selection of edge (3,4) with weight 1.
- (e) Selection of edge (4,5) with weight 1.
- (f) Selection of edge (5,6) with weight 1.
- (g) Selection of edge (6,7) with weight 1.
- (h) Selection of edge (7,8) with weight 1.
- (i) Selection of edge (8,9) with weight 1.
- (j) Selection of edge (9,10) with weight 1.
- (k) Selection of edge (1,3) with weight 1.
- (l) Final minimum spanning tree with 9 edges and total weight 9.

1 1. A method comprising:

2 receiving a downlink broadcast burst from a base station;

3 determining timing for an uplink burst from the received broadcast burst;

4 selecting an amount of delay for the uplink burst; and

5 transmitting an uplink burst to the base station using the determined timing and

6 the selected amount of delay.

1 3. The method of Claim 2 wherein randomly selecting comprises generating
2 a random number and applying the random number to select a random amount of delay.

1 5. The method of Claim 1 wherein determining timing comprises
2 determining nominal timing relative to a frame of the broadcast burst.

1 6. The method of Claim 1 wherein determining timing comprises
2 determining timing on a broadcast channel on which the broadcast burst was received.

1 7. The method of Claim 1 further comprising:
2 receiving a timing advance message from the base station in response to the
3 uplink burst; and

4 advancing timing in accordance with the timing advance message reduced by the
5 selected amount of delay.

1 8. The method of Claim 1 wherein the bursts comprise symbols and wherein
2 the selected amount of delay is between zero and nine symbol times.

1 9. The method of Claim 1 wherein transmitting the uplink burst comprises
2 transmitting the uplink burst with a training sequence.

1 10. The method of Claim 9 wherein the bursts comprise symbols, wherein the
2 training sequence comprises a repeating core sequence and wherein the selected amount
3 of delay corresponds to a symbol time shorter than the symbol time of the core sequence.

1 11. A machine-readable medium having stored thereon data representing
2 sequences of instructions which, when executed by a machine, cause the machine to
3 perform operations comprising:

4 receiving a downlink broadcast burst from a base station;

5 determining timing for an uplink burst from the received broadcast burst;

6 selecting an amount of delay for the uplink burst; and

7 transmitting an uplink burst to the base station using the determined timing and
8 the selected amount of delay.

1 12. The medium of Claim 11 wherein the instructions causing the machine to
2 perform operations comprising selecting an amount of delay further comprise instructions
3 for selecting a random amount of delay

1 13. The medium of Claim 12 wherein the instructions causing the machine to
2 perform operations comprising randomly selecting further comprise instructions for

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3 generating a random number and applying the random number to select a random amount
4 of delay.

1 14. The medium of Claim 11 wherein the instructions causing the machine to
2 perform operations comprising selecting an amount of delay further comprise instructions
3 for determining a digit from an identification number of the user terminal and applying
4 the determined digit to selecting from among a set of different amounts of delay.

1 15. The medium of Claim 11 wherein the instructions causing the machine to
2 perform operations comprising determining timing further comprise instructions for
3 determining timing on a broadcast channel on which the broadcast burst was received.

1 16. The medium of Claim 11 wherein the instructions further comprise
2 instructions causing the machine to perform operations comprising:
3 receiving a timing advance message from the base station in response to the
4 uplink burst; and
5 advancing timing in accordance with the timing advance message reduced by the
6 selected amount of delay.

1 17. The medium of Claim 16 wherein the bursts comprise symbols, wherein
2 the training sequence comprises a repeating core sequence and wherein the selected
3 amount of delay corresponds to a symbol time shorter than the symbol time of the core
4 sequence.

1 18. An apparatus comprising:
2 a receiver to receive a downlink broadcast burst from a base station;
3 a processor to determine timing for an uplink burst from the received broadcast
4 burst and select an amount of delay for the uplink burst; and

5 a transmitter to transmit an uplink burst to the base station using the determined
6 timing and the selected amount of delay.

1 19. The apparatus of Claim 18 wherein the processor selects an amount of
2 delay by selecting a random amount of delay

1 20. The apparatus of Claim 19 wherein the processor selects a random amount
2 of delay by generating a random number and applying the random number to select a
3 random amount of delay.

21. The apparatus of Claim 18 further comprising a register containing an identification number of the apparatus and wherein the processor select an amount of by determining a digit from the register and applying the determined digit to selecting from among a set of different amounts of delay.

1 22. The apparatus of Claim 18 wherein:
2 the receiver receives a timing advance message from the base station in response
3 to the uplink burst; and
4 the processor advances timing in accordance with the timing advance message
5 reduced by the selected amount of delay.

23. The apparatus of Claim 18 wherein the bursts comprise symbols, wherein the training sequence comprises a repeating core sequence and wherein the selected amount of delay corresponds to a symbol time shorter than the symbol time of the core sequence.